

**CONSULTING SERVICES TO REVISE /UPDATE EXISTING  
SEWER RATE SCHEDULE & FEE STRUCTURE FOR THE  
WARWICK SEWER AUTHORITY  
FISCAL YEARS 2012 – 2016**

**FOR THE  
WARWICK SEWER AUTHORITY**

**May 2011**

## **EXECUTIVE OVERVIEW AND OUTLINE OF THE REPORT**

**Section I** - This executive overview will provide the reader the highlights of the report and references to the various sections of the report. For a more complete analysis please refer to the body of the report.

**Section II** provides the reader a description of the scope of the engagement. This “agreed upon procedures” and rate study engagement was completed with the full cooperation and assistance of the Warwick Sewer Authority (WSA) Board, management team and staff. The findings and recommendations of the engagement are presented for the consideration of the WSA Board.

**Section III** lists the assumptions made for this study.

**Section IV** contains a review of the financial condition of the WSA. B&E presents eight years of financial information on a cash basis (two budget & actual, one past budget, one budgeted and four totally projected). The WSA's projected revenues (at current rates) and expenses are presented using standard rate making procedures. All projections were made on a "line item" basis and show the estimated non-rate revenues, expenses and net revenue required from rates. Given that these net revenue requirements exceed the rate revenues at current rates, the schedule reflecting this information shows that the WSA will have significant losses in the future if Cost of Service rates and/or rate increases are not made in the WSA rates. The net revenue required for FY 2016 was used to develop a Cost of Service Allocation to properly assign costs to its function. The remaining fiscal years were phased in toward those allocations.

**Section V** shows the proposed Cost of Service Allocation for Sewer Use for Fiscal Years 2012 through 2015. This update of the August report revises existing sewer rate schedule and fee structure as a result of the Board's desire based on public feedback to phase in the higher commercial meter rates. This section will address this phase in as well as the need for additional revenues as the result of increases in expenses and expenditures. B&E is recommending a first revenue neutral step per customer class to ease the phase in. With these changes in the WSA rate structure, the WSA will be financially solvent through 2016. (**Schedule E-1\_\_B&E Recommended**).

**Section VI** shows the proposed Cost of Service Allocation for Sewer Use for FY 2016. After reviewing the current rate structure, B&E recommended that both the residential & commercial usage rate be adjusted and a connect capable and renewal & replacement rate be adopted. (**Schedule D-3**). B&E also recommends and maintaining a per unit customer charge approach for residential while changing the commercial approach to one based upon meter size. (**Schedule D-4**). With these changes in the WSA rate structure, the WSA will be financially solvent through 2016. (**Schedule E-1\_\_B&E Recommended**).

Lastly in **Section VII**, B&E summarized its recommendations and conclusion as they relate to the implementation of the five year plan. Also listed are the calculation of rates and impacts for two alternatives to provide the board with some additional options. This section also provides the cash flow for B&E recommendation as well as the alternative options.

**Before concluding this executive overview, we would like to thank the Board, the financial officer, management and staff of the WSA who provided excellent assistance to B&E during this engagement. Their efforts have helped us to complete this engagement in a proficient and professional manner.**

## **SCOPE OF ENGAGEMENT**

**Section II** – B&E was engaged by the WSA to provide an extension of consulting services and assistance to modify its prior study dated August 2010. This modification and update of existing sewer rate schedule and fee structure is a result of the Board's desire based on public feedback to phase in the higher commercial meter rates and extend the City debt repayment. The WSA did not implement any FY 2011 rate increase for sewer use from the August 2010 report. In order, to cover any potential shortfall the WSA had to delay the implementation of certain capital projects. In addition to capital projects, the WSA also had to reduce the projected repayment of the City.

Furthermore, this scope will concentrate only on Sewer use as the WSA is currently studying changing its Sewer Assessment. This change is based upon Sewer Assessment Committee's December 2010 recommendation to develop a "Zoning Method" to assess properties. The results of that study will be presented in a separate report. This report will concentrate on the Sewer Use revenues for the periods FY 2012 through 2016. To complete the engagement, B&E was required to review the existing rate structure, project revenues and expenditures for the future and assist the WSA Management team in addressing the following:

1. B&E reviewed and evaluated the current revenues and expenditures of the WSA and made appropriate adjustments in order to prepare what is commonly referred to in the ratemaking process as a "normalized test year". This first step provides a firm footing on which B&E can develop its subsequent financial models.
2. B&E then calculated by using a B&E developed rate design model the pro-forma non rate-revenues and expenses for the WSA for the five year period 2012-2016. This period was selected to cover the major capital expenditure related to the treatment plant upgrade. These calculations resulted in a net revenue requirement which was then used in a B&E developed cost of service rate model. The developed rates provided sufficient pro-forma revenues to obtain one of the initial goals, financial stability for the WSA while properly assigning rates based upon which ratepayers are causing demands to the system.

The above steps resulted in the preparation of numerous schedules and models. Due to the size and complexity of this multi-year approach, not all schedules have been attached to the report. Attached to this report, are schedules and the necessary supporting sub-schedules which reflect certain statistical data plus actual and projected financial information for the WSA. These schedules are kept together by section of the report which they support. Each Section begins with a summary listing the schedule in that section.

B&E reviewed the financial condition of the WSA as of 6/30/10 and found that cash flow and future revenue projections still showed signs that a usage rate increase, rate redesign or both were required.

## **ASSUMPTIONS USED FOR THE DEVELOPMENT OF THE RATE MODEL**

**Section III** – It is an accounting requirement of an “agreed upon procedures” engagement to provide a list of assumptions used in the study. The following is the list of assumptions that were agreed upon by B&E and the WSA.

1. Customer growth is projected at a rate of 630 new sewer customers per year based upon recent history. It was agreed that our projection could have been higher given the significant increases in new sewer construction activity but the assumption made is a conservative one. Again this is a matter of the availability of qualified contractors providing connections.
2. Consumption was reviewed in detail by residential and commercial customer class. Since there are constant new connections, each cycle billed was averaged to consumption per unit. The units by cycle billed are then averaged. No other growth factors other than consumption from new connections are used in the model. B&E updated this review to include the three quarters of billing for FY 2011. See Schedule A-1 for consumption and customer counts used in this model.
3. Renewal and Replacement was projected as \$150,000 of revenue and \$150,000 of expense. If the \$150,000 is not spent, additional dollar reserves will be available. These two line items have no impact on the future net revenue of the WSA.
4. Assessment Revenue projections were maintained from the August 2010 report.
5. Historical levels of expense were increased for inflation rate of 1% to 2.5% depending on type expense.
6. Principal and interest payments are projected to cover actual current debt service and projected debt service for future borrowing. This study now includes a new borrowing which has occurred subsequent to the August 2011 report.
7. The \$16,000,000 of plant improvements to help control phosphorus emissions will be financed with RICWFA debt. The first principal payment beginning September 2014 is to coincide with the completion of construction. In the prior study the financing for this plant was partially funded by the establishment of a capital reserve. Due to the delay in implementing rate increases this approach was not utilized in this study.
8. Both Pretreatment Revenues and expenses have been incorporated, but have little impact to the use rates because the expenses are offset by Pretreatment revenues.
9. Capital Projection were projected by the WSA with consultation from it engineering consultants. Some projects in FY 12, 13 & 14 are financed with grant revenues. These projects will only be completed if grant funds are made available.

**Projected Consumptions**  
**Warwick Sewer Authority**

**Schedule A**

**B&E Recommended**

**Sewer Use Data**

	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
	CF	CF	CF	CF	CF
Retail Sales					
Consumption per Unit	6,965	6,965	6,965	6,965	6,965
Units	25,530	26,160	26,790	27,420	28,050
<b>Residential</b>	<b>177,815,000</b>	<b>182,202,914</b>	<b>186,590,828</b>	<b>190,978,743</b>	<b>195,366,657</b>
Consumption per Unit	26,705	26,839	26,973	27,108	27,243
Units	2,328	2,328	2,328	2,328	2,328
<b>Commercial</b>	<b>62,170,000</b>	<b>62,480,850</b>	<b>62,793,254</b>	<b>63,107,221</b>	<b>63,422,757</b>
Proforma Year	<b>239,985,000</b>	<b>244,683,764</b>	<b>249,384,083</b>	<b>254,085,963</b>	<b>258,789,413</b>

**Meters By Size**

Meter Size	Total Accounts	Total Accounts	Total Accounts	Total Accounts	Total Accounts
5/8 Residential Only	18,766	19,396	20,026	20,656	21,286
5/8 Commercial Only	720	720	720	720	720
3/4	367	367	367	367	367
1	346	346	346	346	346
1 1/2	106	106	106	106	106
2	189	189	189	189	189
3	12	12	12	12	12
4	13	13	13	13	13
6	21	21	21	21	21
8	11	11	11	11	11
10	-	-	-	-	-
Total Accounts	20,551	21,181	21,811	22,441	23,071
Connect Capable	23,726	24,058	24,846	24,846	24,846
Connect Capable 1=Yes	3,175	2,877	3,035	2,405	1,775
	1	1	1	1	1
New Accounts		630	630	630	630
Residential					
# of Units	25,530	26,160	26,790	27,420	28,050
Commercial					
5/8"	721	721	721	721	721
3/4"	122	122	122	122	122
1"	223	223	223	223	223
1 1/2"	85	85	85	85	85
2"	152	152	152	152	152
3"	11	11	11	11	11
4"	10	10	10	10	10
6"	11	11	11	11	11
8"	9	9	9	9	9
10"					

**Number of Bills**

	Total	Total	Total	Total	Total
Retail Sales					
Warwick Quarterly Bill	76,600	79,040	81,480	83,920	86,360
Kent Bills	1,401	1,421	1,441	1,461	1,481
Total Billing	<b>78,001</b>	<b>80,461</b>	<b>82,921</b>	<b>85,381</b>	<b>87,841</b>

## WSA REVENUE AND EXPENSE PROJECTIONS

**Section IV** - B&E has prepared five schedules for this section of the report as follows:

- **Schedules B-1** – Review and Projection of Sewer Use Expense and Non-rate Revenues.
- **Schedules B-2** – Proforma Expenditure and Non-rate Revenues.
- **Schedules B-3** – Proforma Chemical & Sludge Projected.
- **Schedules B-4** – Proforma Debt Projections.
- **Schedules B-5** – Proforma Capital Projections.

Attached to this report is Schedule B-1 and Schedule B-2 that relate to the projection of future other revenues and expenditures using the current rate structure.

These schedules provide the basis for B&E's review and evaluation of the rate year (Budget 2012), previous actual years and the projected future years. Expenses reflect either known or measurable amounts such as debt service or inflation at a rate of 1% for general expenses and 2.5% for personnel and health insurance.

The Personnel costs were obtained from WSA management based upon budgeted position expected to be filled during FY 2012. These values include an enterprise fund city chargeback for city employees who provide services to the Sewer fund. These salary related chargeback, along with insurance, fringe benefits administration were provided by the City Finance Department.

Chemical and Sludge expenses were projected with consideration of additional flow as the result of growth from new users. Schedule B-3 reviews the history chemical and sludge based on historic flow. This schedule also takes into consideration current rates.

Debt Service projections are presented in detail on schedule B-4. Under this B&E recommended approach a new debt service line item has been added to cover capital improvements needed primarily for upgrades to the treatment plant. The borrowing will be assumed to be the subsidized Clean Water rate.

Capital projections are presented in detail on schedule B-5 and were obtained from WSA management. These projections include the \$16,000,000 required plant upgrades to address phosphorus emissions. Some projects in FY 12, 13 & 14 are financed with grant revenues. These projects will only be completed if grant funds are made available.



It should be noted that aside from Personnel, Chemical, Sludge, Debt and Capital the remaining accounts have a small impact on the overall net O&M, Debt and Capital Budget. The amount budgeted for the remaining accounts represented less than 8% of overall net O&M, Debt and Capital Budget. Furthermore, the average of the FY 2009 and FY 2010 actual when compared to the FY 2012 budget for these remaining accounts only had a variance of around \$3,000. No additional review of these accounts was needed and only a 1% inflation rate was used for future years.

In additions to these expenses, the model also includes the repayment the \$6,600,000 owed to the City as part of a “due to” cash flow from the city. The City reported a “due from” the WSA for \$7.6 million and a “due to” the WSA \$0.4 million on the City’s FY 2010 audited financial statement footnote. This net \$7.2 million “due to” the city is expected to be reduced by \$600,000 for FY 2011 as the result of a small improvement in consumption.

While a repayment schedule was included in the WSA last rate increase (FY 2010) large reductions in consumption in FY 2010 has prevented the WSA from following this schedule. This study projects that the city would be paid back by FY 2016. The remaining surplus in later years will be used to fund a debt service special reserve. This special reserve will allow for sufficient upfront cash to help pay for its debt service which is due at the beginning of each fiscal year and is currently being fronted by the City’s General Fund.

**Review and Projection of Sewer Use Expenses**  
**Warwick Sewer Authority**

**Schedule B-1**  
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**B&E Recommended**

Account #	Account Name	Actual 2009	Budget 2009	Actual 2010	Budget 2010	Budget 2011	Budget 2012	FY 2012
<b>O&amp;M Expense</b>								
80-100	Sick Leave	\$ 37,660	\$ -	\$ 47,425	\$ -	\$ -	\$ -	\$ -
80-101	Salaries	1,976,319	2,076,665	1,800,494	1,997,996	1,890,282	1,947,466	1,947,466
80-106	Mun Overtime	54,310	75,750	47,620	65,250	65,000	65,000	65,000
80-107	Overtime Storm	1,143	-	1,515	-	-	-	-
80-140	Temporary Services	-	-	-	-	-	-	-
80-150	Fringe Benefits	707,268	753,953	684,768	781,079	670,795	737,074	737,074
	<b>Personnel</b>	<b>2,776,700</b>	<b>2,906,368</b>	<b>2,581,822</b>	<b>2,844,325</b>	<b>2,626,077</b>	<b>2,749,540</b>	<b>2,749,540</b>
80-201	Office Supplies	7,893	9,800	7,769	10,250	10,000	9,000	9,000
80-202	Printing, Bind & Reproductic	9,474	5,000	7,769	5,000	9,000	9,800	9,800
80-203	Advertising	3,224	5,000	2,318	5,000	3,500	3,500	3,500
80-205	Postage	22,257	28,320	21,546	25,400	30,000	32,000	32,000
80-210	Lab Supplies	17,242	17,800	12,658	17,800	21,000	21,000	21,000
80-220	Fuel	20,945	28,000	19,754	31,200	28,800	41,600	41,600
80-222	Natural Gas	46,820	40,000	36,228	57,000	43,000	32,000	32,000
80-224	Electricity	571,268	610,852	566,578	625,000	625,000	685,000	682,123 See Schedule B-2
80-234	Safety Equipment	5,631	6,000	4,345	6,000	5,000	5,000	5,000
80-243	Chem. Polymer	90,905	85,000	70,047	87,000	85,000	105,000	75,296 See Schedule B-2
80-245	Chem. Chlorine	51,258	50,500	60,009	60,500	48,500	53,000	64,506 See Schedule B-2
80-246	Chem. - Dechlor	38,548	40,000	38,543	48,000	34,000	38,500	41,431 See Schedule B-2
80-247	Chem. - Potassium	29,379	61,000	34,486	66,000	50,000	50,000	37,070 See Schedule B-2
80-248	Chem. - Alum	19,941	20,000	25,378	35,000	35,000	28,000	27,280 See Schedule B-2
80-249	Chem. - Caustic	221,033	194,000	110,541	200,000	150,000	140,000	141,591 See Schedule B-2
80-260	Clothing	6,111	7,000	5,313	8,000	8,000	8,000	8,000
80-281	Maint Materials	64,402	70,000	63,358	80,000	80,000	75,000	75,000
80-298	Other Equipment	29,608	500	120	-	500	500	500
80-299	Other Commodities	-	-	-	-	-	-	-
	<b>Commodities</b>	<b>1,255,939</b>	<b>1,278,772</b>	<b>1,086,760</b>	<b>1,367,150</b>	<b>1,266,100</b>	<b>1,336,900</b>	<b>1,306,698</b>
80-300	Travel	398	1,100	376	1,050	500	500	500
80-301	Training & Education	3,994	5,500	2,244	5,500	5,500	5,500	5,500
80-303	Telephone	29,383	33,200	22,940	31,560	30,000	23,000	23,000
80-304	Water Usage	4,491	5,700	3,815	5,100	5,000	5,000	5,000
80-313	Equip Repair	49,392	50,000	58,993	50,000	60,000	70,000	70,000
80-323	Tax Sale	64,228	25,000	18,153	25,000	25,000	25,000	25,000
80-325	Insurance	351,892	139,800	233,737	262,763	233,736	233,736	233,736
80-330	Auto Maintenance	12,220	14,500	8,892	15,000	15,000	15,000	15,000
80-340	Service Contracts	72,474	80,000	84,837	82,500	80,000	57,800	57,800
80-353	Implementation Service	-	-	675	-	-	-	-
80-360	Professional Service	50,488	48,000	25,244	32,000	30,000	44,000	44,000
80-370	Construction Serv.	50,463	60,000	32,660	65,000	65,000	65,000	65,000
80-371	Nutrient Reduction	-	-	-	-	-	-	-
80-378	Sludge Removal	756,859	750,000	711,668	840,000	800,000	805,000	803,950 See Schedule B-2
80-379	Administration	181,056	138,256	122,812	165,694	109,183	131,663	131,663
80-380	Gen Service	-	-	-	-	-	-	-
81-381	DEM-User Fees	6,050	6,052	6,209	6,052	6,100	6,100	6,100
80-384	Testing & Lab Samples	30,765	33,500	29,731	30,000	32,000	32,000	32,000
80-392	Engineering Service	-	-	4,899	150,000	20,000	20,000	20,000
81-398	Public Out Reach	4,249	6,000	477	1,000	-	-	-
80-399	Services - Other	15,353	21,500	13,723	10,000	15,000	31,300	31,300
	<b>Services</b>	<b>1,683,755</b>	<b>1,418,108</b>	<b>1,382,085</b>	<b>1,778,219</b>	<b>1,532,019</b>	<b>1,570,599</b>	<b>1,569,549</b>
<b>Capital</b>								
	Misc Capital Exp	-	-	-	-	-	335,700	335,700 See Schedule B-4
	Capital Reserve	-	-	-	-	-	-	-
80-560	Renew Replace	30,000	30,000	10,000	10,000	10,000	10,000	10,000 See Schedule B-4
	<b>Capital</b>	<b>30,000</b>	<b>30,000</b>	<b>10,000</b>	<b>10,000</b>	<b>10,000</b>	<b>345,700</b>	<b>345,700</b>

**Debt Service**

ALL INTEREST SEWER TOTALS:								3,203,773 See Schedule B-3
PRINCIPAL SEWER TOTALS:								9,336,592 See Schedule B-3
SEWER ASSESSMENT CONTRIBUTION								(5,596,989) See Schedule B-3
PRINCIPAL & INTEREST ON NEW CAPITOL PROJECTS								99,740 See Schedule B-3
<b>Debt Service</b>	<b>5,789,351</b>	<b>6,079,020</b>	<b>7,461,382</b>	<b>7,385,740</b>	<b>7,340,828</b>	<b>7,043,116</b>	<b>7,043,116</b>	

**Net O&M, Capital & Debt Service**

**13,014,603**

**Reserves**

Net Operating Reserve								- 0.0% O&M + Cap
Debt Service Sinking Fund								
General Fund Repayment		(682,302)					1,450,000	1,230,528
<b>Reserves</b>	<b>-</b>	<b>(682,302)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1,450,000</b>	<b>1,230,528</b>

Review and Projection of Sewer Use Expenses  
Warwick Sewer Authority

**Schedule B-1**  
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Account #	Account Name	Actual 2009	Budget 2009	Actual 2010	Budget 2010	Budget 2011	Budget 2012	FY 2012
<b><u>Other Revenues</u></b>								
81-903	Pretreatment Revenues	(372,020)	(340,000)	(340,000)	(340,000)	(340,000)	(340,000)	(340,000)
80-906	Energy Buyback Revenue	(18,311)	(18,600)	(18,716)	(18,600)	(18,600)	(18,600)	(18,600)
81-906	Monitoring Fees	-	(18,000)	-	(18,000)	-	-	-
81-909	Application Fees	(8,200)	(6,000)	(4,750)	(6,000)	(6,000)	(6,000)	(6,000)
80-914	Cr-Amort. Of Bond	(11,000)	-	-	-	-	-	-
80-930	Grant Revenue	-	-	-	-	-	-	-
80-931	Federal Reimbursement	(29,118)	-	-	-	-	-	-
80-940	Engineering Review	(4,500)	(10,500)	(6,900)	(3,500)	(6,000)	(6,000)	(6,000)
80-942	Surcharge Revenue	-	-	-	-	-	-	-
80-944	Septage Dumping Fees	(121,279)	(120,000)	(67,579)	(135,400)	(50,000)	-	-
80-945	Discharge Fees	(11,282)	(11,100)	(5,122)	(8,000)	-	-	-
80-946	License/Permits	(11,700)	(10,500)	(9,000)	(14,400)	(10,500)	(10,500)	(10,500)
81-955	Pretreatment Fines	(3,450)	-	(2,200)	-	-	-	-
80-956	Misc Income	(1,936)	(7,500)	(124,800)	(2,500)	(3,927)	(24,000)	(24,000)
80-958	Sewer Connect Fees	(102,900)	(150,000)	(63,300)	(75,000)	(75,000)	(75,000)	(75,000)
80-960	Grinder Pumps	(22,493)	(20,000)	(14,164)	(15,000)	(13,000)	(13,000)	(13,000)
80-966	Sewer Tax Title Fees	(24,848)	-	-	(25,000)	(25,000)	(25,000)	(25,000)
80-969	Earnings on Invest.	(22,553)	(35,000)	(6,157)	(15,000)	(6,800)	(4,000)	(4,000)
80-969	Insurance Proceeds	-	-	-	-	-	-	-
80-970	Interest Income	(171,067)	(50,000)	(128,912)	(88,000)	(89,000)	(89,000)	(89,000)
80-989	SLA Admin	(1,100)	(1,000)	(200)	(1,000)	(1,000)	(1,000)	(1,000)
80-990	SLA Inspection	(4,148)	(5,000)	(1,553)	(2,500)	(2,500)	(2,500)	(2,500)
80-999	Misc Dept Credits	-	-	-	-	-	-	-
	Contrib. from Pretreatment	-	-	-	-	-	-	-
	Contributed Capital	(774,250)	-	-	-	-	-	-
	<b>Total Other Revenue</b>	<b>(1,716,155)</b>	<b>(803,200)</b>	<b>(793,353)</b>	<b>(767,900)</b>	<b>(647,327)</b>	<b>(614,600)</b>	<b>(614,600)</b>
<b>Net Revenue Requirement</b>		<b>9,819,590</b>	<b>10,226,766</b>	<b>11,728,696</b>	<b>12,617,534</b>	<b>12,127,697</b>	<b>13,881,255</b>	<b>13,630,531</b>

250,724

**Proforma Expenditure Projections**  
**Warwick Sewer Authority**

**Schedule B-2**  
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**B&E Recommended**

	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
<b>O&amp;M Expense</b>					
80-1 Sick Leave	\$ -	\$ -	\$ -	\$ -	\$ -
80-1 Salaries	1,947,466	1,996,153	2,046,057	2,097,208	2,149,638
80-1 Mun Overtime	65,000	66,625	68,291	69,998	71,748
80-1 Overtime Storm	-	-	-	-	-
80-1 Temporary Services	-	-	-	-	-
80-1 Fringe Benefits	737,074	755,500	774,388	793,748	813,591
<b>Personnel</b>	<b>2,749,540</b>	<b>2,818,278</b>	<b>2,888,735</b>	<b>2,960,954</b>	<b>3,034,978</b>
80-2 Office Supplies	9,000	9,090	9,181	9,273	9,365
80-2 Printing, Bind & Reproduction	9,800	9,898	9,997	10,097	10,198
80-2 Advertising	3,500	3,535	3,570	3,606	3,642
80-2 Postage	32,000	32,320	32,643	32,970	33,299
80-2 Lab Supplies	21,000	21,210	21,422	21,636	21,853
80-2 Fuel	41,600	42,016	42,436	42,861	43,289
80-2 Natural Gas	32,000	32,320	32,643	32,970	33,299
80-2 Electricity	682,123	695,478	708,838	722,203	735,571
80-2 Safety Equipment	5,000	5,050	5,101	5,152	5,203
80-2 Chem. Polymer	75,296	76,771	78,245	79,721	81,196
80-2 Chem. Chlorine	64,506	65,769	67,033	68,296	69,561
80-2 Chem. - Dechlor	41,431	42,243	43,054	43,866	44,678
80-2 Chem. - Potassium	37,070	37,796	38,522	39,249	39,975
80-2 Chem. - Alum	27,280	27,814	28,348	28,883	29,417
80-2 Chem. - Caustic	141,591	144,363	147,137	149,911	152,686
80-2 Clothing	8,000	8,080	8,161	8,242	8,325
80-2 Maint Materials	75,000	75,750	76,508	77,273	78,045
80-2 Other Equipment	500	505	510	515	520
80-2 Other Commodities	-	-	-	-	-
<b>Commodities</b>	<b>1,306,698</b>	<b>1,330,008</b>	<b>1,353,349</b>	<b>1,376,721</b>	<b>1,400,124</b>
80-3 Travel	500	505	510	515	520
80-3 Training & Education	5,500	5,555	5,611	5,667	5,723
80-3 Telephone	23,000	23,230	23,462	23,697	23,934
80-3 Water Usage	5,000	5,050	5,101	5,152	5,203
80-3 Equip Repair	70,000	70,700	71,407	72,121	72,842
80-3 Tax Sale	25,000	25,250	25,503	25,758	26,015
80-3 Insurance	233,736	236,073	238,434	240,818	243,227
80-3 Auto Maintenance	15,000	15,150	15,302	15,455	15,609
80-3 Service Contracts	57,800	58,378	58,962	59,551	60,147
80-3 Implementation Service	-	-	-	-	-
80-3 Professional Service	44,000	44,440	44,884	45,333	45,787
80-3 Construction Serv.	65,000	65,650	66,307	66,970	67,639
80-3 Nutrient Reduction	-	-	-	-	-
80-3 Sludge Removal	803,950	819,691	835,437	851,188	866,945

**Proforma Expenditure Projections**  
**Warwick Sewer Authority**

**Schedule B-2**  
*Page 2 of 3*

**B&E Recommended**

	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
80-3 Administration	131,663	132,980	134,309	135,653	137,009
80-3 Gen Service	-	-	-	-	-
81-3 DEM-User Fees	6,100	6,161	6,223	6,285	6,348
80-3 Testing & Lab Samples	32,000	32,320	32,643	32,970	33,299
80-3 Engineering Service	20,000	20,200	20,402	20,606	20,812
81-3 Public Out Reach	-	-	-	-	-
80-3 Services - Other	31,300	31,613	31,929	32,248	32,571
<b>Services</b>	<b>1,569,549</b>	<b>1,592,946</b>	<b>1,616,424</b>	<b>1,639,985</b>	<b>1,663,630</b>
<b>Capital</b>					
80-7 Misc Capital Exp	335,700	1,098,000	1,962,000	1,089,000	1,131,500
Capital Reserve	-	-	-	-	-
80-5 Renew Replace	10,000	150,000	150,000	150,000	150,000
<b>Capital</b>	<b>345,700</b>	<b>1,248,000</b>	<b>2,112,000</b>	<b>1,239,000</b>	<b>1,281,500</b>
<b>Debt Service</b>					
ALL INTEREST SEWER TOTALS:	3,203,773	2,956,914	2,701,661	2,441,823	2,179,112
PRINCIPAL SEWER TOTALS:	9,336,592	9,527,021	9,713,956	9,734,057	9,921,728
SEWER ASSESSMENT CONTRIBUTION	(5,596,989)	(5,245,149)	(4,986,077)	(4,861,508)	(4,748,413)
PRINCIPAL & INTEREST ON NEW CAPITOL	99,740	276,710	290,683	1,156,514	1,358,532
<b>Debt Service</b>	<b>7,043,116</b>	<b>7,515,496</b>	<b>7,720,223</b>	<b>8,470,886</b>	<b>8,710,959</b>
<b>Net O&amp;M, Capital &amp; Debt Service</b>	<b>13,014,603</b>	<b>14,504,728</b>	<b>15,690,731</b>	<b>15,687,546</b>	<b>16,091,190</b>
<b>Reserves</b>					
Net Operating Reserve	-	90,860	103,617	93,817	95,943
Debt Service Sinking Fund	-	-	-	-	874,727
General Fund Repayment	1,230,528	1,774,000	1,550,000	1,662,985	382,487
<b>Reserves</b>	<b>1,230,528</b>	<b>1,864,860</b>	<b>1,653,617</b>	<b>1,756,802</b>	<b>1,353,157</b>
<b>Other Revenues</b>					
81-9 Pretreatment Revenues	(340,000)	(340,000)	(340,000)	(340,000)	(340,000)
80-9 Energy Buyback Revenue	(18,600)	(18,600)	(18,600)	(18,600)	(18,600)
81-9 Monitoring Fees	-	-	-	-	-
81-9 Application Fees	(6,000)	(6,000)	(6,000)	(6,000)	(6,000)
80-9 Cr-Amort. Of Bond	-	-	-	-	-
80-9 Grant Revenue	-	-	-	-	-
80-9 Federal Reimbursement	-	-	-	-	-
80-9 Engineering Review	(6,000)	(6,000)	(6,000)	(6,000)	(6,000)
80-9 Surcharge Revenue	-	-	-	-	-
80-9 Septage Dumping Fees	-	-	-	-	-
80-9 Discharge Fees	-	-	-	-	-
80-9 License/Permits	(10,500)	(10,500)	(10,500)	(10,500)	(10,500)
<b>\$</b>	<b>14,245,131</b>	<b>\$ 16,369,588</b>	<b>\$ 17,344,348</b>	<b>\$ 17,444,347</b>	<b>\$ 17,444,347</b>

**Proforma Expenditure Projections**  
**Warwick Sewer Authority**

**Schedule B-2**  
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**B&E Recommended**

	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>
81-9 Pretreatment Fines	-	-	-	-	-
80-9 Misc Income	(24,000)	(24,000)	(24,000)	(24,000)	(24,000)
80-9 Sewer Connect Fees	(75,000)	(75,000)	(75,000)	(75,000)	(75,000)
80-9 Grinder Pumps	(13,000)	(13,000)	(13,000)	(13,000)	(13,000)
80-9 Sewer Tax Title Fees	(25,000)	(25,000)	(25,000)	(25,000)	(25,000)
80-9 Earnings on Invest.	(4,000)	(4,000)	(4,000)	(4,000)	(4,000)
80-9 Insurance Proceeds	-	-	-	-	-
80-9 Interest Income	(89,000)	(89,000)	(89,000)	(89,000)	(89,000)
80-9 SLA Admin	(1,000)	(1,000)	(1,000)	(1,000)	(1,000)
80-9 SLA Inspection	(2,500)	(2,500)	(2,500)	(2,500)	(2,500)
80-9 Misc Dept Credits	-	-	-	-	-
Contribution from Pretreatment	-	-	-	-	-
Contributed Capital	-	-	-	-	-
<i>Total Other Revenue</i>	<u>(614,600)</u>	<u>(614,600)</u>	<u>(614,600)</u>	<u>(614,600)</u>	<u>(614,600)</u>
 Net Revenue Requirement	 <u>13,630,531</u>	 <u>15,754,988</u>	 <u>16,729,748</u>	 <u>16,829,747</u>	 <u>16,829,747</u>

**Proforma Chemical & Sludge Projections**  
**Warwick Sewer Authority**

**Schedule B-3**

**B&E Recommended**

Account #	Account Name	Actual 2006	Actual 2008	Actual 2009	Actual 2010	Projected Rate	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
<u>Historical Expenses</u>											
80-224	Electricity	\$ 430,667	\$ 456,361	\$ 571,268	\$ 566,578						
80-243	Chem. Polymer	31,140	59,945	90,905	70,047						
80-245	Chem. Chlorine	45,757	35,203	51,258	60,009						
80-246	Chem. - Dechlor	24,281	29,298	38,548	38,543						
80-247	Chem. - Potassium	73,787	80,678	29,379	34,486						
80-248	Chem. - Alum	8,935	10,962	19,941	25,378						
80-249	Chem. - Caustic	137,484	113,433	221,033	110,541						
	<b>Commodities</b>	<b>\$ 752,051</b>	<b>\$ 785,880</b>	<b>\$ 1,022,332</b>	<b>\$ 905,582</b>						
<b>Total Usage</b>							239,985,000	244,683,764	249,384,083	254,085,963	258,789,413
<u>Historical Rates &amp; Projected Expenses</u>											
			<u>Average Rates per usage</u>								
80-224	Electricity	0.00172	0.00178	0.00227	0.00254	0.00284	\$ 682,123	\$ 695,478	\$ 708,838	\$ 722,203	\$ 735,571
80-243	Chem. Polymer	0.00012	0.00023	0.00036	0.00031	0.00031	\$ 75,296	\$ 76,771	\$ 78,245	\$ 79,721	\$ 81,196
80-245	Chem. Chlorine	0.00018	0.00014	0.00020	0.00027	0.00027	\$ 64,506	\$ 65,769	\$ 67,033	\$ 68,296	\$ 69,561
80-246	Chem. - Dechlor	0.00010	0.00011	0.00015	0.00017	0.00017	\$ 41,431	\$ 42,243	\$ 43,054	\$ 43,866	\$ 44,678
80-247	Chem. - Potassium	0.00029	0.00032	0.00012	0.00015	0.00015	\$ 37,070	\$ 37,796	\$ 38,522	\$ 39,249	\$ 39,975
80-248	Chem. - Alum	0.00004	0.00004	0.00008	0.00011	0.00011	\$ 27,280	\$ 27,814	\$ 28,348	\$ 28,883	\$ 29,417
80-249	Chem. - Caustic	0.00055	0.00044	0.00088	0.00050	0.00059	\$ 141,591	\$ 144,363	\$ 147,137	\$ 149,911	\$ 152,686
	<b>Commodities</b>										
							<b>Projected Usage x Projected Rate</b>				
<u>Historical Expenses and Rates &amp; Projected Expenses</u>											
80-378	Sludge Removal	\$ 757,620	\$ 769,083	756,859	\$ 711,668						
			<u>Average Rates per usage</u>								
		0.003020	0.003005	0.003008	0.003188	0.00335	\$ 803,950	\$ 819,691	\$ 835,437	\$ 851,188	\$ 866,945

**Proforma Debt Projections**  
**Warwick Sewer Authority**

**Schedule B-4**

**B&E Recommended**

<i>Account #</i>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>
ALL INTEREST SEWER TOTALS:	3,203,773	2,956,914	2,701,661	2,441,823	2,179,112
NON-ASSESSABLE PRINCIPAL SEWER TOTALS:	2,441,382	2,486,526	2,519,551	2,556,499	2,583,061
ASSESSABLE PRINCIPAL SEWER TOTALS:	6,895,210	7,040,495	7,194,405	7,177,558	7,338,667
SEWER ASSESSMENT REVENUE	(5,596,989)	(5,245,149)	(4,986,077)	(4,861,508)	(4,748,413)
REQUIRED SEWER USE CONTRIBUTION	1,298,221	1,795,346	2,208,328	2,316,050	2,590,254
TOTAL DEBT ON NEW SEWER PROJECTS			-	-	-
SRF-13 3,000,000	99,740	276,710	270,303	257,489	251,082
SRF-14 16,000,000 Plant			20,380	899,025	1,107,450
SEWER USE DEBT SERVICE	7,043,116	7,515,496	7,720,223	8,470,886	8,710,959



**Proforma Capital Projections**  
**Warwick Sewer Authority**

**Schedule B-5**

**B&E Recommended**

<i>Account #</i>	<i>FY 2012</i>	<i>FY 2013</i>	<i>FY 2014</i>	<i>FY 2015</i>	<i>FY 2016</i>
Collection System	\$ 71,700	\$ 33,000	\$ 1,008,000	\$ 28,000	\$ 755,500
Pumping Stations	111,000	1,931,000	381,000	106,000	326,000
Facilities	1,090,000	190,000	6,670,000	900,000	-
Plant improvements for Phosphorus removal			16,000,000		
Operations Equipment	60,000	-	-	-	-
Laboratory/Sampling Equipment	-	-	-	-	-
Maintenance	40,000	-	-	-	-
Vehicle Replacements	45,000	309,000	73,000	55,000	50,000
Miscellaneous	83,000	20,000	-	-	-
<b>Total Capital Expenditures by Year</b>	<b>\$ 1,500,700</b>	<b>\$ 2,483,000</b>	<b>\$ 24,132,000</b>	<b>\$ 1,089,000</b>	<b>\$ 1,131,500</b>
Money Provided from FEMA & Grants	1,090,000	1,350,000	6,170,000	-	-
Money Provided from R&R Funds	75,000				
Money Provided from I&I Funds	-	35,000	-	-	-
Money Provided from IPP R&R Funds	-	-	-	-	-
Money Provided from New Debt	-	-	16,000,000	-	-
Money Provided from Capital Reserve	-	-	-		
<b>Total Budgeted Expenditure by Year</b>	<b>\$ 335,700</b>	<b>\$ 1,098,000</b>	<b>\$ 1,962,000</b>	<b>\$ 1,089,000</b>	<b>\$ 1,131,500</b>
<b>Capital Reserve</b>	-	-	-		
<b>R&amp;R Reserve</b>	<b>10,000</b>	<b>150,000</b>	<b>150,000</b>	<b>150,000</b>	<b>150,000</b>
<b>Total Capital</b>	<b>\$ 345,700</b>	<b>\$ 1,248,000</b>	<b>\$ 2,112,000</b>	<b>\$ 1,239,000</b>	<b>\$ 1,281,500</b>
Capital Reserve Balance for each year	\$ -	\$ -	\$ -	\$ -	\$ -

Not included above is

## **WSA SEWER USE COST OF SERVICE FY 2012 - 2015**

**Section V** - B&E has prepared four schedules for this section of the report as follows:

- **Schedules C-1** – Calculation of Across the Board Increase.
- **Schedules C-2** – Units of Service.
- **Schedules C-3** – Determination of Sewer Rates.
- **Schedules C-4** – Determination of Customer Charges.

Since it is the WSA decision to phase in the implementation of a Cost of Service, B&E prepared this section to develop rates which are in FY 2012 revenue neutral to each ratepayer group after first applying an across the board increase. The across the board increase is calculated by dividing the net revenue requirement by the projected revenues calculated with current rates. This balance is then reduced for any new direct revenue rates such as connect capable. The remaining across the board increase/ (decrease) is first applied to usage rates then an allocated revenue requirement is transferred to the customer service charge. This transfer for FY 2012 was only done between Commercial Usage Rates and Commercial Customer Service Rates.

The units of service presented on schedule C-2 used assumptions detailed from Section III. The consumption for FY 2012 from Residential and Commercial did not receive a weighting to take into consideration the return of flow (reduced for residential outside watering) nor a differential between residential and commercial flow strengths as they did in the August study. The meter count for Commercial only receives a weighting based upon an equivalency ratio. B&E had utilized the same equivalency methodology from the Narragansett Bay Commission's last filing before the Rhode Island Public Utilities Commission in the August 2010 report. However, in this report B&E utilized a meter equivalency ratio very similar to what is used in the Water Industry. This approach minimizes the impact on large meters while implementing a Customer Charge based on meter size in line with proper ratemaking principles.

The Use charge was calculated by first applying the across the board increase to the residential and commercial revenues at current rates. The begin the implementation of Customer Service charge by meter size, a portion of the commercial revenue required from usage rates was transferred to the commercial revenue required from customer service rates. The remaining balance for each customer class was then divided by 100% of the consumption for each class. This will have revenue neutral effect to the residential accounts since the revenue required from residents will not change. (See Schedule C-3)

The Connect Capable charge which is an allowable charge under the WSA enabling legislation is calculated by dividing the revenue required from connect capable by the total number of accounts which have not tied into the system. The charge which is calculated would still be lower than the typical residential yearly bill. This revenue stream however low would help keep the residential customers from having any increase.

The impact of not assessing this charge is detailed under alternative #1 on Schedule F-2. (See Section VII)

The Renewal and Replacement fund has a separate rate calculated based upon total consumption. This separate rate will assist in the tracking and reserving of renewal and replacement revenue. (See Schedule C-3)

The final charge to be calculated is the Customer Charge. Residential accounts are calculated based upon the number of units. The revenue for residential accounts is first calculated by applying any across the board increase to the residential revenues at current rates (none for FY 2012). Next the revenue required is then adjusted for any allocation from usage (none for FY 2012) then divided by the total number of residential units.

Commercial accounts are calculated based upon meter size. The revenue for commercial accounts is first calculated by applying any across the board increase to the commercial revenues at current rates (none for FY 2012). Next the revenue required is then adjusted for any allocation from usage (\$100,000 for FY 2012) then divided by the total number of commercial meter equivalents calculated on Schedule C-2. The rate per equivalent unit is then applied to the equivalency ratio to calculate the service charge based upon meter size. The service charge and billing charges are combined to provide the customer charge.

The across the board increases for FY 2013 and FY 2014 were applied to Usage, Connect Capable, R&R and Service Charge. No further modifications were allocated between revenue sources. The FY 2015 had no projected across the board increase; however there were increase allocations to residential and commercial usage along with an increase allocation to commercial service charges from a reduced allocation to residential service charges.

Calculation of  
Across the Board Increase - FY 2012  
Warwick Sewer Authority

**Schedule C-1**  
*Page 1 of 1*

**Calculation of Percentage Increase in Revenue Requirement**

Net Revenue Requirement	\$ 13,630,531
Projected FY 2012 Revenue at Old Rates	12,988,737

Revenue Increase	\$ 641,794	
Projected FY 2012 Revenue at Old Rates	\$ 12,988,737	<u>4.94%</u>

**Calculation of Across the Board Increase Percentage**

Revenue Increase	\$ 641,794
Increase covered by Increase to R&R Charge	(100,000)
Increase covered by Increase to Connect Capable Charge	<u>(850,000)</u>
<b><i>Revenue Increase to be covered by an across the board % Increase</i></b>	<b><u><u>\$ (308,206)</u></u></b>

Revenue Items which could be increased by an across  
the board % Increase

Sewer Usage	\$ 10,119,085
Service Fees	<u>-</u>

Total Revenue Available for Increase	<u><u>\$ 10,119,085</u></u>
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Across the Board Percentage Increase	<u><u>-3.05%</u></u>
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Units of Service - FY 2012  
Warwick Sewer Authority

**Schedule C-2**

**B&E Recommended**

**Sewer Use Data**

	<u>CF</u>
Retail Sales	
Residential	177,815,000
Commercial	62,170,000
Proforma Year	<u>239,985,000</u>

**Meters By Size**

<u>Meter Size</u>	<u>Total Accounts</u>	<u>Equivalency ** Ratio</u>	<u>Meter Equivalency</u>	<u>Equivalency *** Ratio</u>
Commercial Only				
5/8	721	1.00	721	1.00
3/4	122	1.42	173	1.49
1	223	1.76	392	2.49
1 1/2	85	3.26	277	4.99
2	152	4.58	695	7.97
3	11	6.30	69	14.94
4	10	9.58	96	24.89
6	11	16.90	186	49.81
8	9	29.56	266	79.69
10	-	42.40	-	114.55
	<u>1,344</u>		<u>2,876</u>	

**Number of Bills**

	<u>Total</u>
Warwick Quarterly Bills	72,640
Kent Bills	1,400
Total Billing	<u>74,040</u>

\*\* These equivalency ratios are typical of water rate equivalency ratios.  
 They are being utilized to minimize the impact of changing to a meter size charge

\*\*\* These equivalency ratios were adapted from the Narragansett Bay Commission's  
 Last filing before the RIPUC. Docket 4026.

Determination of Sewer Rates - FY 2012  
Warwick Sewer Authority

Schedule C-3

**B&E Recommended**

**Retail Use Rate**

	Residential	Commercial	
Current Use Revenue	\$ 6,550,527	\$ 3,568,558	
Across the Board % Increase	-3.05%	-3.05%	
	<u>6,351,011</u>	<u>3,459,867</u>	
Amount Allocated to Service	<u>-</u>	<u>100,000</u>	
Net Required Retail	\$ 6,351,011	\$ 3,359,867	
Retail Sales	177,815,000	62,170,000	See Schedule c-2
Rate per 1000 cf	<u>\$ 35.72</u>	<u>\$ 54.04</u>	

**Connect Capable Charge**

Net Required	\$ 850,000	See Schedule c-1
Accounts	3,179	See Schedule A
Annual Charge per Account	<u>\$ 267.38</u>	

Connect Capable Rate is charges to any assessment account  
with is not also connected thus not being billed for a Use rate.

**Renewal & Replacement Rate**

Net Required	\$ 100,000	See Schedule C-1
Total Consumption	239,985,000	See Schedule C-2
Rate per 1000 cf	<u>\$ 0.42</u>	

The Renewal & Replacement Rate is applied to  
both Residential & Commercial Accounts

Determination of Customer Charges - FY 2012  
WARWICK SEWER AUTHORITY

**Schedule C-4**

Page 1 of 2

**B&E Recommended**

**Service Charges**

**Commercial**

Current Customer Charge Revenue	\$ 239,807
Across the Board % Increase	0.00%
	<u>\$ 239,807</u>

Amount Allocated From Usage	<u>\$ 100,000</u>
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Meter/Service Charges	\$ 339,807	
No. of EQ. Services	2,876	See Schedule C-2
Rate per Eq. Service/Yr	<u>\$ 118.16</u>	

Size	Rate per Equivalent	Service Charge	Annual Total Meter/Service Charge
5/8 C	1.00	\$ 118.16	\$ 118.16
3/4	1.42	\$ 167.79	\$ 167.79
1	1.76	\$ 207.73	\$ 207.73
1 1/2	3.26	\$ 385.21	\$ 385.21
2	4.58	\$ 540.59	\$ 540.59
3	6.30	\$ 744.42	\$ 744.42
4	9.58	\$ 1,131.52	\$ 1,131.52
6	16.90	\$ 1,996.94	\$ 1,996.94
8	29.56	\$ 3,492.87	\$ 3,492.87

**Total Customer Charges per Quarter - Commercial**

Size	Meter/Service Charge	Total Meter/Service Charge
5/8	\$ 29.54	\$ 29.54
3/4	\$ 41.95	\$ 41.95
1	\$ 51.93	\$ 51.93
1 1/2	\$ 96.30	\$ 96.30
2	\$ 135.15	\$ 135.15
3	\$ 186.11	\$ 186.11
4	\$ 282.88	\$ 282.88
6	\$ 499.23	\$ 499.23
8	\$ 873.22	\$ 873.22

Determination of Customer Charges - FY 2012  
WARWICK SEWER AUTHORITY

**Schedule C-4**  
Page 2 of 2

***Total Customer Charges - Residential***

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Current Customer Charge Revenue	\$ 2,629,845
Across the Board % Increase	<u>0.00%</u>
	\$ 2,629,845
 Amount Allocated From Usage	 <u>\$ -</u>
 Meter sized revenue need to be covered	 \$ 2,629,845
# of Residential Units (See Schedule III-1)	<u>25,530</u>
Annual Per Unit Rate	<u>\$ 103.01</u>
 Quarterly Per Unit Rate	 <u>\$ 25.75</u>



## **WSA SEWER USE COST OF SERVICE – FY 2016**

**Section VI** - B&E has prepared five schedules for this section of the report as follows:

- **Schedules D-1** – Proforma Cost Allocation.
- **Schedules D-1a** – Explanation of Symbols Used to Allocate Functions.
- **Schedules D-2** – Units of Service.
- **Schedules D-3** – Determination of Sewer Rates.
- **Schedules D-4** – Determination of Customer Charges.

Using the base projected year FY 2016 developed in Section IV, this data is used for the purpose of allocating each cost based upon what function these expenditures impact. These functions are later used to generate a specific revenue source based on which ratepayers are causing demands to the system.

Schedule D-1 allocates these expenditures to each function based upon the Allocator symbols presented on Schedule D-1a. The symbol A Allocator was specifically developed based upon detailed budgeted Personnel positions which were first allocated to each given function. (This allocator was developed as part of the August Report).

The units of service presented on schedule D-2 used assumptions detailed from Section III. The consumption from residential and commercial receive a weighting to take into consideration the return of flow (reduced for residential outside watering) and differential between residential and commercial flow strengths. The meter count receives a weighting based upon an equivalency ratio. As mention in Section V, in this report B&E utilized a meter equivalency ratio very similar to what is used in the water industry. This approach minimizes the impact on large meters while implementing a Customer Charge based on meter size in line with proper ratemaking principles.

The Use charge was calculated by first applying the weighted ratio for residential and commercial to the revenue require from the use charge. The revenue required for each customer class was then divided by 100% of the consumption for each class. B&E has effectively built into the model the differential for outside watering in the residential rate. This is the same approach which NBC uses to calculate their residential rates. (See Schedule D-3)

The Connect Capable charge which is an allowable charge under the WSA enabling legislation is calculated by dividing the revenue required from connect capable by the total number of accounts which have not tied into the system. The charge which is calculated would still be lower than the typical residential yearly bill. This revenue stream however low would help keep the residential customers from having any increase. The impact of not assessing this charge is detailed under alternative #1 on Schedule F-2. (See Section VII)

The Renewal and Replacement fund has a separate rate calculated based upon total consumption. This separate rate will assist in the tracking and reserving of renewal and replacement revenue. (See Schedule D-3)

The final charge to be calculated is the Customer Charge. This calculation is a two part step. First the revenue require for billing is divided by total bills to obtain a charge by bill. Next the revenue required from service is divided by the total equivalent meters calculated on Schedule D-2. The rate per equivalent unit is then applied to the equivalency ratio to calculate the service charge based upon meter size. The service charge and billing charges are combined to provide the Customer charge.

While the commercial accounts use just this meter charge the residential accounts use a further calculation to determine the Customer Charge by billing unit since the number of units of a residential home and the size of its meter could cause some large inequity in the rates. The detail of this calculation can be seen on page 2 of 2 on Schedule D-4.

**Proforma Cost Allocation - FY 2016**  
**Warwick Sewer Authority**

**Schedule D-1**  
 Page 1 of 2

**B&E Recommended**

Account #	Account Name	FY 2016	Flow & Strength	Connect Capable	R&R	Service	Billing
<b><u>O&amp;M Expense</u></b>							
80-100	Sick Leave	\$ -	A	-	-	-	-
80-101	Salaries	2,149,638	A	1,418,761	-	386,935	343,942
80-106	Mun Overtime	71,748	A	53,093	-	5,740	12,915
80-107	Overtime Storm	-	A	-	-	-	-
80-140	Temporary Services	-	A	-	-	-	-
80-150	Fringe Benefits	813,591	A	536,970	-	146,446	130,175
	<b>Personnel</b>	<b>3,034,977</b>		<b>2,008,825</b>	<b>-</b>	<b>539,121</b>	<b>487,031</b>
80-201	Office Supplies	9,365	B	-	-	7,024	2,341
80-202	Printing, Bind & Reproductic	10,198	B	-	-	7,648	2,549
80-203	Advertising	3,642	B	-	-	2,732	911
80-205	Postage	33,299	B	-	-	24,974	8,325
80-210	Lab Supplies	21,853	C	21,853	-	-	-
80-220	Fuel	43,289	D	-	-	43,289	-
80-222	Natural Gas	33,299	C	33,299	-	-	-
80-224	Electricity	735,571	C	735,571	-	-	-
80-234	Safety Equipment	5,203	C	5,203	-	-	-
80-243	Chem. Polymer	81,196	C	81,196	-	-	-
80-245	Chem. Chlorine	69,561	C	69,561	-	-	-
80-246	Chem. - Dechlor	44,678	C	44,678	-	-	-
80-247	Chem. - Potassium	39,975	C	39,975	-	-	-
80-248	Chem. - Alum	29,417	C	29,417	-	-	-
80-249	Chem. - Caustic	152,686	C	152,686	-	-	-
80-260	Clothing	8,325	C	8,325	-	-	-
80-281	Maint Materials	78,045	C	78,045	-	-	-
80-298	Other Equipment	520	C	520	-	-	-
80-299	Other Commodities	-	C	-	-	-	-
	<b>Commodities</b>	<b>1,400,124</b>		<b>1,300,330</b>	<b>-</b>	<b>85,668</b>	<b>14,126</b>
80-300	Travel	520	D	-	-	520	-
80-301	Training & Education	5,723	D	-	-	5,723	-
80-303	Telephone	23,934	D	-	-	23,934	-
80-304	Water Usage	5,203	C	5,203	-	-	-
80-313	Equip Repair	72,842	C	72,842	-	-	-
80-323	Tax Sale	26,015	D	-	-	26,015	-
80-325	Insurance	243,227	C	243,227	-	-	-
80-330	Auto Maintenance	15,609	D	-	-	15,609	-
80-340	Service Contracts	60,147	D	-	-	60,147	-
80-353	Implementation Service	-	D	-	-	-	-
80-360	Professional Service	45,787	D	-	-	45,787	-
80-370	Construction Serv.	67,639	D	-	-	67,639	-
80-371	Nutrient Reduction	-	D	-	-	-	-
80-378	Sludge Removal	866,945	C	866,945	-	-	-
80-379	Administration	137,009	D	-	-	137,009	-
80-380	Gen Service	-	C	-	-	-	-
81-381	DEM-User Fees	6,348	C	6,348	-	-	-
80-384	Testing & Lab Samples	33,299	C	33,299	-	-	-
80-392	Engineering Service	20,812	D	-	-	20,812	-
81-398	Public Out Reach	-	C	-	-	-	-
80-399	Services - Other	32,571	C	32,571	-	-	-
	<b>Services</b>	<b>1,663,630</b>		<b>1,260,435</b>	<b>-</b>	<b>403,196</b>	<b>-</b>
<b><u>Capital</u></b>							
	Misc Capital Exp	1,131,500	E	1,050,666	80,834	-	-
	Capital Reserve	-	H	-	-	-	-
80-560	Renew Replace	150,000	G	-	10,716	139,284	-
	<b>Capital</b>	<b>1,281,500</b>		<b>1,050,666</b>	<b>91,550</b>	<b>139,284</b>	<b>-</b>
<b><u>Debt Service</u></b>							
ALL INTEREST SEWER TOTALS:		2,179,112	F	1,618,749	124,541	435,822	-
NON-ASSESSABLE PRINCIPAL SEWER TOTALS:		9,921,728	F	7,370,335	567,047	1,984,346	-
REQUIRED SEWER USE CONTRIBUTION		(4,748,413)	F	(3,527,349)	(271,382)	(949,683)	-
PRINCIPAL & INT. ON NEW CAP PROJECTS		1,358,532	F	1,009,183	77,643	271,706	-
	<b>Debt Service</b>	<b>8,710,959</b>		<b>6,470,918</b>	<b>497,849</b>	<b>1,742,192</b>	<b>-</b>

**Proforma Cost Allocation - FY 2016**  
**Warwick Sewer Authority**

**Schedule D-1**  
 Page 2 of 2

Account #	Account Name	FY 2016	Flow & Strength	Connect Capable	R&R	Service	Billing
<b>Net O&amp;M, Capital &amp; Debt Service</b>		<b>16,091,190</b>	<b>12,091,173</b>	<b>589,400</b>	<b>139,284</b>	<b>2,770,176</b>	<b>501,157</b>
			75%	4%	1%	17%	3%
<b>Reserves</b>							
	Net Operating Reserve	95,943	72,093	3,514	830	16,517	2,988
	Debt Service Sinking Fund	974,727	732,425	35,703	8,437	167,804	30,358
	General Fund Repayment	282,487	212,265	10,347	2,445	48,632	8,798
	<b>Reserves</b>	<b>1,353,157</b>	<b>1,016,783</b>	<b>49,564</b>	<b>11,713</b>	<b>232,953</b>	<b>42,144</b>
<b>Other Revenues</b>							
81-903	Pretreatment Revenues	(340,000) C	(340,000)				
80-906	Energy Buyback Revenue	(18,600) I	(13,976)	(681)	(161)	(3,202)	(579)
81-906	Monitoring Fees	- C	-				
81-909	Application Fees	(6,000) C	(6,000)				
80-914	Cr-Amort. Of Bond	- I	-	-	-	-	-
80-930	Grant Revenue	- I	-	-	-	-	-
80-931	Federal Reimbursement	- I	-	-	-	-	-
80-940	Engineering Review	(6,000) I	(4,508)	(220)	(52)	(1,033)	(187)
80-942	Surcharge Revenue	- I	-	-	-	-	-
80-944	Septage Dumping Fees	- I	-	-	-	-	-
80-945	Discharge Fees	- I	-	-	-	-	-
80-946	License/Permits	(10,500) I	(7,890)	(385)	(91)	(1,808)	(327)
81-955	Pretreatment Fines	- C	-				
80-956	Misc Income	(24,000) I	(18,034)	(879)	(208)	(4,132)	(747)
80-958	Sewer Connect Fees	(75,000) I	(56,356)	(2,747)	(649)	(12,912)	(2,336)
80-960	Grinder Pumps	(13,000) I	(9,768)	(476)	(113)	(2,238)	(405)
80-966	Sewer Tax Title Fees	(25,000) I	(18,785)	(916)	(216)	(4,304)	(779)
80-969	Earnings on Invest.	(4,000) I	(3,006)	(147)	(35)	(689)	(125)
80-969	Insurance Proceeds	- I	-	-	-	-	-
80-970	Interest Income	(89,000) I	(66,876)	(3,260)	(770)	(15,322)	(2,772)
80-989	SLA Admin	(1,000) I	(751)	(37)	(9)	(172)	(31)
80-990	SLA Inspection	(2,500) I	(1,879)	(92)	(22)	(430)	(78)
80-999	Misc Dept Credits	- I	-	-	-	-	-
	Contrib. from Pretreatment	- C	-				
	Contributed Capital	- I	-	-	-	-	-
	<b>Total Other Revenue</b>	<b>(614,600)</b>	<b>(547,830)</b>	<b>(9,838)</b>	<b>(2,325)</b>	<b>(46,241)</b>	<b>(8,366)</b>
<b>Net Revenue Requirement</b>		<b>16,829,747</b>	<b>12,560,126</b>	<b>629,126</b>	<b>148,672</b>	<b>2,956,888</b>	<b>534,936</b>

Explanation of Symbols  
Used to Allocate to Functions - FY 2016  
 Warwick Sewer Authority

**Schedule D-1a**

Explanation	Allocator	Flow & Strength	Connect Capable	R&R	Service	Billing	Total
Salary and Payroll (based on August Study)	A	66%	0%	0%	18%	16%	100.00%
25% Billing & 75% Service	B	0%	0%	0%	75%	25%	100.00%
100% Treatment Flow & Strenght	C	100%	0%	0%	0%	0%	100.00%
100% Service	D	0%	0%	0%	100%	0%	100.00%
Allocates between Flow and Connect Capable based on Available Accounts	E	93%	7%	0%	0%	0%	100.00%
Allocates 20% first to Service then between Flow and Connect Capable based on Available Accounts	F	74%	6%	0%	20%	0%	100.00%
Allocates between R&R and Connect Capable based on Available Accounts	G	0%	7%	93%	0%	0%	100.00%
Allocates between Service and Connect Capable based on Available Accounts	H	70%	5%	25%	0%	0%	100.00%
Applied to Operating Revenue in proportion to all other expenses	I	75%	4%	1%	17%	3%	100.00%

# Units of Service - FY 2016

# Schedule D-2

## Warwick Sewer Authority

## B&E Recommended

### Sewer Use Data

	CF	Flow/Strength *	Return	Weighted CF
Retail Sales				
Residential	195,366,657	65%	126,988,327	67%
Commercial	63,422,757	100%	63,422,757	33%
Proforma Year	<u>258,789,413</u>		<u>190,411,084</u>	

### Meters By Size

Meter Size	Total Accounts	Equivalency ** Ratio	Meter Equivalency	Equivalency *** Ratio
5/8 Residential Only	21,286	0.40	8,514	0.40
5/8 Commercial Only	720	1.00	720	1.00
3/4	367	1.42	521	1.49
1	346	1.76	608	2.49
1 1/2	106	3.26	346	4.99
2	189	4.58	865	7.97
3	12	6.30	76	14.94
4	13	9.58	124	24.89
6	21	16.90	355	49.81
8	11	29.56	325	79.69
10	-	42.40	-	114.55
	<u>23,071</u>		<u>12,454</u>	

### Number of Bills

	Total
Warwick Quarterly Bills	72,640
Kent Bills	1,400
Total Billing	<u>74,040</u>

\* The Flow/ Strength return was developed to factor in a flow of only 85% to compensate for outside watering and a strength differential based on other studies and industry averages.

\*\* These equivalency ratios are typical of water rate equivalency ratios.  
They are being utilized to minimize the impact of changing to a meter size charge

\*\*\* These equivalency ratios were adapted from the Narragansett Bay Commission's  
Last filing before the RIPUC. Docket 4026.

Determination of Sewer Rates - FY 2016  
Warwick Sewer Authority

Schedule D-3

**B&E Recommended**

**Retail Use Rate**

Net Required Retail                   \$     12,560,126   See Schedule D-1 page 2 of 2

Residential                   67% \$     8,376,558

Commercial                   33% \$     4,183,569

	Residential	Commercial	
Net Required Retail	\$     8,376,558	\$     4,183,569	
Retail Sales	195,366,657	63,422,757	See Schedule D2
Rate per 1000 cf	<u>\$           42.88</u>	<u>\$           65.96</u>	

**Connect Capable Charge**

Net Required                   \$     629,126   See Schedule D-1 page 2 of 2

Accounts                                   1,775   See Schedule A

Annual Charge per Account   \$     354.44

Connect Capable Rate is charged to any assessment account  
which is not also connected thus not being billed for a Use rate.

**Renewal & Replacement Rate**

Net Required                   \$     148,672   See Schedule D-1 page 2 of 2

Total Consumption                   258,789,413   See Schedule D-2

Rate per 1000 cf                   \$           0.57

The Renewal & Replacement Rate is applied to  
both Residential & Commercial Accounts

**Determination of Customer Charges - FY 2016**  
**WARWICK SEWER AUTHORITY**

**Schedule D-4**  
*Page 1 of 2*

***Billing Charges***

**B&E Recommended**

Billing Charges	\$ 534,936	See Schedule D-1 page 2 of 2
No. of Bills	74,040	See Schedule D-2
Rate per Bill	\$ 7.22	

***Service Charges***

Meter/Service Charges	\$ 2,956,888	See Schedule D-1 page 2 of 2
No. of EQ. Services	12,454	See Schedule D-2
Rate per Eq. Service/Yr	\$ 226.63	

Size	Rate per Equivalent	Service Charge	Annual Billing Charge	Annual Total Meter/Service Charge
5/8 R	0.40	\$ 90.65	\$ 28.90	\$ 119.55
5/8 C	1.00	\$ 226.63	\$ 28.90	\$ 255.53
3/4	1.42	\$ 321.81	\$ 28.90	\$ 350.71
1	1.76	\$ 398.42	\$ 28.90	\$ 427.32
1 1/2	3.26	\$ 738.81	\$ 28.90	\$ 767.71
2	4.58	\$ 1,036.83	\$ 28.90	\$ 1,065.73
3	6.30	\$ 1,427.77	\$ 28.90	\$ 1,456.67
4	9.58	\$ 2,170.21	\$ 28.90	\$ 2,199.11
6	16.90	\$ 3,830.05	\$ 28.90	\$ 3,858.95
8	29.56	\$ 6,699.18	\$ 28.90	\$ 6,728.08

***Total Customer Charges per Quarter - Commercial***

Size	Meter/Service Charge	Billing Charge	Total Meter/Service Charge
5/8	\$ 56.66	\$ 7.22	\$ 63.88
3/4	\$ 80.45	\$ 7.22	\$ 87.68
1	\$ 99.60	\$ 7.22	\$ 106.83
1 1/2	\$ 184.70	\$ 7.22	\$ 191.93
2	\$ 259.21	\$ 7.22	\$ 266.43
3	\$ 356.94	\$ 7.22	\$ 364.17
4	\$ 542.55	\$ 7.22	\$ 549.78
6	\$ 957.51	\$ 7.22	\$ 964.74
8	\$ 1,674.80	\$ 7.22	\$ 1,682.02



Determination of Customer Charges - FY 2016  
WARWICK SEWER AUTHORITY

Schedule D-4  
Page 2 of 2

***Total Customer Charges - Residential***

<u>Size</u>	<u>Meter/Service Charge</u>	<u>Billing Charge</u>	<u>Total Meter/Service Charge</u>
5/8	21,286	\$ 119.55	\$ 2,544,781
3/4	245	\$ 350.71	\$ 85,925
1	123	\$ 427.32	\$ 52,560
1 1/2	21	\$ 767.71	\$ 16,122
2	37	\$ 1,065.73	\$ 39,432
3	1	\$ 1,456.67	\$ 1,457
4	3	\$ 2,199.11	\$ 6,597
6	10	\$ 3,858.95	\$ 38,589
8	2	\$ 6,728.08	\$ 13,456

Meter sized revenue need to be covered	\$ 2,798,919
# of Residential Units (See Schedule A)	28,050
Annual Per Unit Rate	<u>\$ 99.78</u>
Quarterly Per Unit Rate	<u>\$ 24.95</u>

## RECOMMENDATIONS, ALTERNATIVES AND CONCLUSIONS

**Section VII** - B&E has prepared three schedules for this section of the report as follows:

- **Schedules E-1** – Cash Flow Projections
- **Schedules E-2**–Proposed Rates Increase.
- **Schedules E-3** – Ratepayer impacts

Schedule E-2 along with detailing the current rates and current revenues at current rates, this schedule presents proposed rates and total revenues at the proposed rates. In addition this schedule details the overall increase in revenue over revenues at current rates.

Normally the WSA would have taken the overall percentage increase and applied it to all rates. However under the approach which B&E is recommending some ratepayers would have an increase, some remain neutral and some would see a decrease.

Schedule E-3 provides a ratepayer impact table that shows that residential and commercial ratepayers would receive a reduction in their overall rates for FY 2012. The reason for this is the implementation of a connect capable charge. Table further shows that residential ratepayers would receive a reduction in their overall rates for FY 2015 & FY 2016. The primary reason for this was that for many years the Customer Charge for a residential unit was the same as large commercial entity such as the airport with an 8” service.

The following recommendations are presented to assist the WSA to improve its overall operations. They are intended to be helpful and not critical. B&E is prepared to assist the WSA in the implementation of any or all of the following recommendations.

1. Because the WSA is a stand alone enterprise fund, it is important that each ratepayer pay all of the cost incurred in providing them with sewer disposal. B&E recommends that the WSA adopt the proposed rates presented on Schedule E-2. Please note that the connect capable and customer charge presented are on an annual basis. However, if the WSA is looking for desires to repay the City back as quickly as possible then B&E would recommend the WSA use the residential and commercial rates from Alternative #1 along with the connect capable charge from the B&E Recommended model. This connect capable revenue would be then earmarked for repayment of the “due to” account with the City.

One of the most important goals of this engagement was to maintain the financial independence and strength of the WSA. Therefore it is very important to this engagement to identify what level of rate increase and restructuring of rates would be needed to provide for the WSA needs through FY 2016. Schedule E-1 “B&E Recommended” shows that by implementing the rates on Schedule E-2 “B&E Recommended” there would be sufficient revenue to meet all of the WSA needs, repay the city by FY 2016 and carry forward surplus balance for the debt service reserve in 2017.

**Proforma Cash Flow Projections  
with Proposed Rate Increases  
Warwick Sewer Authority**

**Schedule E-1**

**B&E Recommended**

	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
<b>Sewer Revenues</b>					
Use	\$ 9,710,879	\$ 11,322,723	\$ 11,992,868	\$ 12,384,304	\$ 12,560,126
Connect Capable	850,000	838,029	920,233	729,191	629,126
Renewal/Replacement	100,000	116,788	119,652	121,961	148,672
Minimum Service Charge	2,969,653	3,477,447	3,696,995	3,594,292	3,491,824
Other	614,600	614,600	614,600	614,600	614,600
Assessments **	-	-	-	-	-
<b>Total Sewer Revenues</b>	<b>\$ 14,245,131</b>	<b>\$ 16,369,588</b>	<b>\$ 17,344,348</b>	<b>\$ 17,444,348</b>	<b>\$ 17,444,348</b>
<b>Sewer Expenses</b>					
Personnel	\$ 2,749,540	\$ 2,818,278	\$ 2,888,735	\$ 2,960,954	\$ 3,034,978
Commodities	1,306,698	1,330,008	1,353,349	1,376,721	1,400,124
Services	1,569,549	1,592,946	1,616,424	1,639,985	1,663,630
Misc Capital Exp	335,700	1,098,000	1,962,000	1,089,000	1,131,500
Capital Reserve	-	-	-	-	-
Renew Replace	10,000	150,000	150,000	150,000	150,000
Debt Service	7,043,116	7,515,496	7,720,223	8,470,886	8,710,959
Net Operating Reserve	-	90,860	103,617	93,817	95,943
Debt Service Sinking Fund	-	-	-	-	874,727
General Fund Repayment	1,230,528	1,774,000	1,550,000	1,662,985	382,487
<b>Total Sewer Expenses</b>	<b>\$ 14,245,131</b>	<b>\$ 16,369,588</b>	<b>\$ 17,344,348</b>	<b>\$ 17,444,348</b>	<b>\$ 17,444,348</b>
<b>Net Revenue before GO Debt</b>	<b>\$ 0</b>	<b>\$ (0)</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 0</b>
<b>Sewer Net</b>	<b>\$ 0</b>	<b>\$ (0)</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 0</b>
General Fund Repayment	\$ 1,230,528	\$ 1,774,000	\$ 1,550,000	\$ 1,662,985	\$ 382,487
\$ 6,600,000	\$ 5,369,472	\$ 3,595,472	\$ 2,045,472	\$ 382,487	\$ -

\*\* Sewer Assessment revenue is netted against debt expense

Accumulation of Debt Service Sink	\$	-	\$	-	\$	-	\$	874,727
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**Recommendations & Alternatives**  
**Warwick Sewer Authority**

**Schedule E-2**

**B&E Recommended**

	<u>Current Rates</u>	<u>FY 2012 Rates</u>	<u>FY 2013 Rates</u>	<u>FY 2014 Rates</u>	<u>FY 2015 Rates</u>	<u>FY 2016 Rates</u>
<b><u>Retail Use Rate</u></b>						
Residential	\$ 43.34	\$ 35.72	\$ 40.93	\$ 42.60	\$ 43.02	\$ 42.88
<i>Percent billed</i>	85%	100%	100%	100%	100%	100%
Commercial	\$ 57.40	\$ 54.04	\$ 61.93	\$ 64.46	\$ 66.05	\$ 65.96
<i>Percent billed</i>	100%	100%	100%	100%	100%	100%
<b><u>Connect Capable Charge</u></b>						
Annual per account	\$ -	\$ 267.38	\$ 291.29	\$ 303.21	\$ 278.13	\$ 324.62
<b><u>Renewal &amp; Replacement Rate</u></b>						
Residential & Comm	\$ -	\$ 0.42	\$ 0.48	\$ 0.48	\$ 0.48	\$ 0.57
<b><u>Customer Charge Per Quarter</u></b>						
Residential per Unit	\$ 25.75	\$ 25.75	\$ 29.51	\$ 30.72	\$ 28.16	\$ 24.95
Meter Size						
Commercial per Unit	\$ 25.75					
5/8		\$ 29.54	\$ 33.85	\$ 35.24	\$ 43.93	\$ 63.88
3/4		\$ 41.95	\$ 48.07	\$ 50.04	\$ 62.38	\$ 87.68
1		\$ 51.93	\$ 59.51	\$ 61.95	\$ 77.23	\$ 106.83
1 1/2		\$ 96.30	\$ 110.36	\$ 114.87	\$ 143.21	\$ 191.93
2		\$ 135.15	\$ 154.87	\$ 161.21	\$ 200.98	\$ 266.43
3		\$ 186.11	\$ 213.27	\$ 221.99	\$ 276.75	\$ 364.17
4		\$ 282.88	\$ 324.17	\$ 337.43	\$ 420.67	\$ 549.78
6		\$ 499.23	\$ 572.10	\$ 595.50	\$ 742.40	\$ 964.74
8		\$ 873.22	\$ 1,000.67	\$ 1,041.60	\$ 1,298.55	\$ 1,682.02
<b>Total FY 2012 Sewer Revenues</b>	<b>\$ 13,603,337</b>	<b>\$ 14,245,131</b>	<b>\$ 16,369,588</b>	<b>\$ 17,344,348</b>	<b>\$ 17,444,348</b>	<b>\$ 17,444,348</b>
<b>Overall Increase</b>		<b>4.9%</b>	<b>15.6%</b>	<b>6.2%</b>	<b>0.6%</b>	<b>0.0%</b>

**Yearly Ratepayer Impacts**  
**Warwick Sewer Authority**

**Schedule E-3**

**B&E Recommended**

	Annual Bill	Annual Net Increase/ (Decrease)	
<b>Impact on 97.6 HCF 5/8"</b>			
<b>meter Residential User</b>			
<b>FY 2011</b>	462.56		
<b>FY 2012</b>	455.68	(6.88)	-1.49%
<b>FY 2013</b>	522.18	66.50	14.59%
<b>FY 2014</b>	543.37	21.18	4.06%
<b>FY 2015</b>	537.23	(6.14)	-1.13%
<b>FY 2016</b>	523.86	(13.37)	-2.49%
		<u>61.30</u>	
<b>Impact on 244 HCF 5/8"</b>			
<b>meter Commercial User</b>			
<b>FY 2011</b>	1,505.77		
<b>FY 2012</b>	1,446.98	(58.79)	-3.90%
<b>FY 2013</b>	1,658.17	211.19	14.59%
<b>FY 2014</b>	1,725.57	67.40	4.06%
<b>FY 2015</b>	1,798.96	73.39	4.25%
<b>FY 2016</b>	1,879.05	80.09	4.45%
		<u>373.28</u>	
<b>Impact on 2440 HCF 2"</b>			
<b>meter Commercial User</b>			
<b>FY 2011</b>	14,130.57		
<b>FY 2012</b>	13,828.81	(301.76)	-2.14%
<b>FY 2013</b>	15,847.15	2,018.34	14.60%
<b>FY 2014</b>	16,491.07	643.91	4.06%
<b>FY 2015</b>	17,036.31	545.25	3.31%
<b>FY 2016</b>	17,300.93	264.62	1.55%
		<u>3,170.36</u>	

## ALTERNATIVES

Per the request of WSA management, B&E was asked to provide some additional options for the board to consider before making their decision. Normally as in prior reports all of the various schedules would be presented with little headers indicating which option is present. This would clutter and already large report with numerous schedules already. To clarify the bottom line of each option Schedule F-1 is included as an alternative to present the future cash flow of that alternative. In addition, Schedule F-2 includes columns for results on rates by year and Schedule F-3 includes columns for a ratepayer impact table by year.

Alternative #1 (Schedules F-1, F-2 & F-3) uses all of the same methodologies from the B&E Proposed model except for no connect capable rate is calculated. Without the connect capable charge the overall increase stays neutral however residential and commercial rates rise since there is no longer a subsidy from ratepayer who refuse to connect.

Alternative #2 (not directly presented) if the WSA desires to repay the City back as quickly as possible then B&E would recommend the WSA use the residential and commercial rates from Alternative #1 along with the connect capable charge from the B&E Recommended model. This connect capable revenue would be then earmarked for repayment of the "due to" account with the City.

**Proforma Cash Flow Projections  
with Proposed Rate Increases  
Warwick Sewer Authority**

**Schedule F-1**

**Alternative #1**

	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
<b>Sewer Revenues</b>					
Use	\$ 10,560,879	\$ 12,195,162	\$ 12,943,216	\$ 13,190,024	\$ 13,177,814
Connect Capable	-	-	-	-	-
Renewal/Replacement	100,000	115,670	117,160	119,420	160,110
Minimum Service Charge	2,969,653	3,444,155	3,669,373	3,520,304	3,491,824
Other	614,600	614,600	614,600	614,600	614,600
Assessments **	-	-	-	-	-
<b>Total Sewer Revenues</b>	<b>\$ 14,245,131</b>	<b>\$ 16,369,588</b>	<b>\$ 17,344,348</b>	<b>\$ 17,444,348</b>	<b>\$ 17,444,348</b>
<b>Sewer Expenses</b>					
Personnel	\$ 2,749,540	\$ 2,818,278	\$ 2,888,735	\$ 2,960,954	\$ 3,034,978
Commodities	1,306,698	1,330,008	1,353,349	1,376,721	1,400,124
Services	1,569,549	1,592,946	1,616,424	1,639,985	1,663,630
Misc Capital Exp	335,700	1,098,000	1,962,000	1,089,000	1,131,500
Capital Reserve	-	-	-	-	-
Renew Replace	10,000	150,000	150,000	150,000	150,000
Debt Service	7,043,116	7,515,496	7,720,223	8,470,886	8,710,959
Net Operating Reserve	-	90,860	103,617	93,817	95,943
Debt Service Sinking Fund	-	-	-	-	874,727
General Fund Repayment	1,230,528	1,774,000	1,550,000	1,662,985	382,487
<b>Total Sewer Expenses</b>	<b>\$ 14,245,131</b>	<b>\$ 16,369,588</b>	<b>\$ 17,344,348</b>	<b>\$ 17,444,348</b>	<b>\$ 17,444,348</b>
<b>Net Revenue before GO Debt</b>	<b>\$ (0)</b>	<b>\$ (0)</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 0</b>
<b>Sewer Net</b>	<b>\$ (0)</b>	<b>\$ (0)</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 0</b>
General Fund Repayment	\$ 1,230,528	\$ 1,774,000	\$ 1,550,000	\$ 1,662,985	\$ 382,487
\$ 6,600,000	\$ 5,369,472	\$ 3,595,472	\$ 2,045,472	\$ 382,487	\$ -

\*\* Sewer Assessment revenue is netted against debt expense

Accumulation of Debt Service Sink	\$	-	\$	-	\$	-	\$	-	\$	874,727
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**Recommendations & Alternatives**  
**Warwick Sewer Authority**

**Schedule F-2**

**Alternative #1**

	<u>Current Rates</u>	<u>FY 2012 Rates</u>	<u>FY 2013 Rates</u>	<u>FY 2014 Rates</u>	<u>FY 2015 Rates</u>	<u>FY 2016 Rates</u>
<b><u>Retail Use Rate</u></b>						
Residential	\$ 43.34	\$ 38.81	\$ 44.05	\$ 45.95	\$ 45.80	\$ 44.98
<i>Percent billed</i>	85%	100%	100%	100%	100%	100%
Commercial	\$ 57.40	\$ 58.86	\$ 66.80	\$ 69.67	\$ 70.40	\$ 69.21
<i>Percent billed</i>	100%	100%	100%	100%	100%	100%
<b><u>Connect Capable Charge</u></b>						
Annual per account	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b><u>Renewal &amp; Replacement Rate</u></b>						
Residential & Comm	\$ -	\$ 0.42	\$ 0.47	\$ 0.47	\$ 0.47	\$ 0.62
<b><u>Customer Charge Per Quarter</u></b>						
Residential per Unit	\$ 25.75	\$ 25.75	\$ 29.23	\$ 30.49	\$ 27.56	\$ 24.95
Meter Size						
Commercial per Unit	\$ 25.75					
5/8		\$ 29.54	\$ 33.53	\$ 34.97	\$ 43.23	\$ 63.88
3/4		\$ 41.95	\$ 47.61	\$ 49.66	\$ 61.39	\$ 87.68
1		\$ 51.93	\$ 58.94	\$ 61.48	\$ 76.00	\$ 106.83
1 1/2		\$ 96.30	\$ 109.30	\$ 114.01	\$ 140.94	\$ 191.93
2		\$ 135.15	\$ 153.39	\$ 159.99	\$ 197.79	\$ 266.43
3		\$ 186.11	\$ 211.23	\$ 220.32	\$ 272.37	\$ 364.17
4		\$ 282.88	\$ 321.06	\$ 334.88	\$ 414.01	\$ 549.78
6		\$ 499.23	\$ 566.62	\$ 591.01	\$ 730.65	\$ 964.74
8		\$ 873.22	\$ 991.09	\$ 1,033.75	\$ 1,277.99	\$ 1,682.02
<b>Total FY 2012 Sewer Revenues</b>	<b>\$ 13,603,337</b>	<b>\$ 14,245,131</b>	<b>\$ 16,369,588</b>	<b>\$ 17,344,348</b>	<b>\$ 17,444,348</b>	<b>\$ 17,444,348</b>
<b>Overall Increase</b>		<b>4.9%</b>	<b>15.6%</b>	<b>6.2%</b>	<b>0.6%</b>	<b>0.0%</b>



**Yearly Ratepayer Impacts**  
**Warwick Sewer Authority**

**Schedule F-3**

**Alternative #1**

	Annual Bill	Annual Net Increase/ (Decrease)	
<b>Impact on 97.6 HCF 5/8"</b>			
<b>meter Residential User</b>			
<b>FY 2011</b>	462.56		
<b>FY 2012</b>	485.88	23.32	5.04%
<b>FY 2013</b>	551.44	65.56	13.49%
<b>FY 2014</b>	574.97	23.53	4.27%
<b>FY 2015</b>	561.88	(13.09)	-2.28%
<b>FY 2016</b>	544.87	(17.00)	-3.03%
		<u>82.31</u>	
<b>Impact on 244 HCF 5/8"</b>			
<b>meter Commercial User</b>			
<b>FY 2011</b>	1,505.77		
<b>FY 2012</b>	1,564.63	58.86	3.91%
<b>FY 2013</b>	1,775.69	211.06	13.49%
<b>FY 2014</b>	1,851.43	75.73	4.27%
<b>FY 2015</b>	1,902.10	50.67	2.74%
<b>FY 2016</b>	1,959.29	57.19	3.01%
		<u>453.52</u>	
<b>Impact on 2440 HCF 2"</b>			
<b>meter Commercial User</b>			
<b>FY 2011</b>	14,130.57		
<b>FY 2012</b>	15,005.27	874.70	6.19%
<b>FY 2013</b>	17,029.37	2,024.10	13.49%
<b>FY 2014</b>	17,755.34	725.97	4.26%
<b>FY 2015</b>	18,082.75	327.40	1.84%
<b>FY 2016</b>	18,103.24	20.49	0.11%
		<u>3,972.67</u>	